

Alex Hornung

CPU Microarchitect • Digital Design Engineer
Cambridge, United Kingdom

April 26, 2023

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About me

Experienced memory system architect with strong background in load/store design, all levels of CPU caches, data prefetching, and cache coherency.

Strong track record in all areas of IP design, from exploration and specification to RTL design, physical implementation and design verification.

Strong software development and debugging skills (C, C++, Clojure, Python, Go) from low-level microcontroller firmware and operating systems to web applications.

Work Experience

- **ARM Limited** Cambridge, United Kingdom
[Senior Principal Engineer, Principal Engineer] September 2016 - current
 - Lead memory system and MMU architect for ARM's little A-class cores.
 - Contributor to AMBA 5 CHI coherent interconnect architecture.
 - Technical assessor for previous, current and next generation of DSU/cluster-level cache.
[Staff Engineer, Senior Engineer, Engineer] September 2012 - September 2016
 - Exploration and design of previous generation of ARM's DSU/cluster-level cache.
 - Micro-architecture of previous generations of instruction fetch for ARM's little and multi-threaded A-class cores.
- **DragonFly BSD** United Kingdom
Developer/Committer 2008 - 2013
 - Mostly kernel code in various areas, including device drivers, file systems, schedulers and cryptographic components.
- **ARM Limited** Cambridge, United Kingdom
CPU Design Intern June 2011 - September 2011
 - Development of a SystemVerilog memory controller model.
 - RTL Engineer on an SMT CPU (later cancelled).
- **Freelance** United Kingdom
Software Developer June 2008 - September 2012
 - Development of Assembly/C/C++ projects including FreeBSD and Windows kernel modules and user- space applications for various clients.

Education

- **University of Southampton** Southampton, United Kingdom
MSc System-on-Chip 2011-2012
– with Distinction
- **University College London** London, United Kingdom
BEng Electronic Engineering 2008-2011
– 1st Class Honours

Languages

English: Fluent • **Spanish:** Native • **German:** Native • **French:** Limited